

WHAT IS CLAIMED IS:

1. A gate valve comprising:

a valve rod provided so as to be capable of rotating a valve plate having first and second tapered valve plate surfaces capable of ascending and descending in a valve box having first and second openings;

a rotatably-supporting member for rotatably supporting the valve rod;

a raising/lowering cylinder provided on the rotatably-supporting member and adapted to raise and lower the valve rod;

a pin engaged with an elongated hole of the valve rod;

a lateral actuator having the pin and capable of reciprocating in a lateral direction perpendicular to the longitudinal direction of the rod;

first and second stoppers provided on the sides of the lateral actuator; and

first and second lock cylinders connected to the first and second stoppers,

wherein one of the lock cylinders is operated, with the valve rod raised by the raising/lowering cylinder, to thereby cancel the engagement between the second stopper and the lateral actuator, and wherein, by laterally moving the lateral actuator, the valve rod is tilted to thereby put one of the first and second valve plate surfaces onto one of the first and second openings to close the

gate valve.

2. A gate valve according to Claim 1, wherein the lateral actuator is guided by a lateral bar provided in a fixedly arranged frame member, and wherein the first and second stoppers are arranged between the side portions of the lateral actuator and the frame member.

3. A gate valve comprising:

a valve rod provided so as to be laterally movable in a valve box having first and second openings and so as to be capable of rotating a valve plate having first and second tapered valve plate surfaces;

a rotatably-supporting portion provided outside the valve box so as to rotatably support the valve rod; and

an actuator having a rod connected to a lower portion of the valve rod through the intermediation of a lower rotatably-supporting portion,

wherein, by laterally moving the rod of the actuator, the valve plate surfaces are tilted, and one of the first and second openings is closed or opened with one of the first and second valve plate surfaces.

4. A gate valve comprising:

a valve rod provided so as to be laterally movable in a valve box having first and second openings and so as to be capable of rotating a valve plate having first and second tapered valve plate surfaces;

a rotatably-supporting portion provided outside the valve box so as to rotatably support the valve rod;

a protrusion provided on a lower portion of the rod;

a raising/lowering cylinder for raising and lowering the valve rod;

a first cam member with a first cam hole engaged with the protrusion;

a second cam member with a second cam hole engaged with the protrusion;

a first cam raising/lowering cylinder for raising and lowering the first cam member; and

a second cam raising/lowering cylinder for raising and lowering the second cam member,

wherein, by selecting between the raising and lowering of the first and second cam members, the first and second valve plate surfaces are tilted to close or open one of the first and second openings with one of the first and second valve plate surfaces.

5. A gate valve according to Claim 4, wherein the cam members are arranged in a state in which they are stacked together, and

wherein the first and second cam raising/lowering cylinders are arranged at positions differing from each other.

6. A gate valve comprising:

a valve rod provided so as to be laterally movable in a valve box having first and second openings and so as to be capable of rotating a valve plate having first and second tapered valve plate surfaces;

a rotatably-supporting portion provided outside the valve box so as to rotatably support the valve rod;

a first cylinder arranged below the valve rod and having a first driving block; and

a second cylinder arranged below the valve rod and having a second driving block,

wherein the first and second cylinders are selectively driven to put one of the first and second driving blocks onto a lower side portion of the valve rod, thereby tilting the valve rod to close or open one of the first and second openings with one of the first and second valve plate surfaces.

7. A gate valve comprising:

a valve rod provided so as to be laterally movable in a valve box having first and second openings and so as to be capable of rotating a valve plate having first and second tapered valve plate

surfaces;

a rotatably-supporting portion provided outside the valve box so as to rotatably support the valve rod;

a connection member connected to a lower portion of the valve rod through the intermediation of a lower rotatably-supporting portion;

a base rotatably-supporting portion for rotatably supporting a base portion of the connection member; and

a connection member driving means for rotating the connection member,

wherein the valve rod is tilted through rotation of the connection member to thereby close or open one of the first and second openings with one of the first and second valve plate surfaces.